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10/528,341

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EXAMINER

EVANS, GEOFFREY T

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/528,341	Applicant(s) NAITO ET AL.	
	Examiner GEOFFREY T. EVANS	Art Unit 2852	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 10,13,17,20,24,27,30 and 32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9,11,12,14-16,18,19,21-23,25,26,28,29, and 31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date | 6) <input type="checkbox"/> Other: _____ |

3/18/05, 7/12/05, 10/19/06, 2/6/07, 8/9/07, 11/19/07, 1/14/08, 3/18/08.

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of embodiment 1 in the reply filed on 4/7/2009 is acknowledged. The traversal is on the ground(s) that searching all species would not impose an undue burden on the Examiner. This is not found persuasive because the species are mutually exclusive, and therefore would require different fields of search. Furthermore, the determination of whether claims directed to each species are disclosed or taught by the prior art would require additional consideration for each species.

The requirement is still deemed proper and is therefore made FINAL.

Claims 10, 13, 17, 20, 24, 27, 30, and 32 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 4/7/2009.

Specification

The disclosure is objected to because of the following informalities:

In the Brief Description of the Drawings, each of figures 19, 19a, 19b; 24, 24a, 24b; 27, 27a, 27b; 31, 31a, and 31b should have separate descriptions.

Furthermore, the specification contains some minor typographical errors. See Examiner's suggested corrections, below, for identification of errors. Examiner believes that, with these corrections, the specification appears as Applicant intended.

Appropriate correction is required.

Examiner suggests the following corrections to the specification, with additions underlined, deletions bracketed or struck through, and all changes bolded:

Page 1, lines 20-21, of the specification; or paragraph 3, lines 1-4, of the PG pub:

“Referring to FIG. 2, the electrophotographic image forming apparatus forms an electrostatic latent image by irradiating an ~~irradiating an~~ electrophotographic image bearing member...”

Page 23, line 15, of the specification; or paragraph 90, last 5 lines, of the PG pub:

“Further, in the case where the e bias voltage set value or the like is switched depending on a sheet feeding history, in the storing device 111, e.g., threshold information or a set value which is switched based on the threshold information is stored.”

Page 39, line 25, of the specification; or paragraph 129, lines 5-7, of the PG pub:

“...which is the sum of the charging bias voltage application time~~—multiplied~~ **multiplied** by a wearing contribution ratio...”

Page 57, line 15, of the specification; or paragraph 192 of the PG pub:

"A process for ~~determinating~~ determining an image processing condition through the main assembly storing device in the image forming apparatus and the cartridge storing device will be described with reference to FIG. 23."

Page 72, line 3, of the specification; or paragraph 254, lines 1-3, of the PG pub:

"Further, in the case where the photosensitive characteristic is out of the assumed degrees thereof as in ~~Embodiment 1~~ Embodiment 1..."

Page 74, line 17, of the specification; or paragraph 263, lines 4-6, of the PG pub:

"...for ~~determinating~~ determining a plurality of different modulation degrees..."

Page 76, line 17, of the specification; or paragraph 271, lines 1-2, of the PG pub:

"A process for ~~determinating~~ determining an image processing condition..."

Claim Objections

Claims 8, 9, and 31 are objected to because of the following informalities:

They each contain minor typographical errors. See Examiner's interpretation, below, for the identification of said errors. Examiner believes that these interpretations are as Applicant intended.

Appropriate correction is required.

Examiner has interpreted the claims as follows, with additions underlined, deletions bracketed or struck through, and all changes bolded:

8. (Currently Amended) An apparatus according to Claim 1, wherein the information for setting the second image forming condition corresponding to a plurality of levels of an amount of the image bearing member is designation information for ~~determinating~~ determining the second image forming condition.

9. (Original) An apparatus according to Claim 4, wherein the apparatus further ~~comprising~~ comprises exposure means for exposing the image bearing member under an exposure operation condition on the basis of image information, and the information for setting the second image forming condition corresponding to the plurality of levels of an amount of usage of the image bearing member is the exposure operation condition of the exposure means.

31. (Currently Amended) A device according to Claim 26, wherein the information for setting the second image forming condition corresponding to a plurality of levels of an amount of usage of the image bearing member is designation information for ~~determinating~~ determining the second image forming condition.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1 and 2 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 4 of copending Application No. 10/528,238. Although the conflicting claims are not identical, they are not patentably distinct from each other because the copending claims are narrower than the current claims.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Regarding claim 1, and claim 2 depending therefrom, copending claims 1 and 4 recite an image forming apparatus having a first image formation mode for forming an image on an image bearing member by using developer under a first predetermined image forming condition and a second image formation mode for forming an image on an image bearing member by using developer under a second image forming condition which is different from the first predetermined image forming condition and is set so that an amount of consumption of developer with respect to an identical image in the second image formation mode is smaller than that in the first image formation mode (**see claim 1, lines 1-8**), said apparatus comprising:

storing means for storing information for setting the second image forming condition corresponding to a plurality of levels of an amount of usage of the image bearing member **(see claim 1, lines 9-10; and claim 4, lines 1-4)**, and

control means for changing the second image forming condition in the second image formation mode depending on an amount of usage of the image bearing member and information stored in said storing means **(see claim 1, lines 13-14; and claim 4, lines 5-8)**.

Regarding claim 2, copending claims 1 and 4 recite an apparatus according to Claim 1, wherein said image forming apparatus further comprises discrimination means for discriminating an image to be formed, said discrimination means changes the second image forming condition depending on an amount of usage of the image bearing member, information stored in said storing means, and a result of discrimination by said discrimination means **(see claim 1, lines 11-12, and last 5 lines)**.

Claims 11-12, 19, and 26 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 4 of copending Application No. 10/528,238 in view of Yamauchi (7,274,884).

This is a provisional obviousness-type double patenting rejection.

Regarding claim 11, see the foregoing rejection of claim 1, for those limitations recited therein.

Regarding claim 11, copending claims 1 and 4 do not recite an apparatus according to Claim 1, wherein the image bearing member and said storing means are

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integrally supported to form a cartridge which is detachably mountable to the image forming apparatus.

Yamauchi discloses an apparatus wherein an image bearing member and a storing means are integrally supported to form a cartridge which is detachably mountable to the image forming apparatus **(see column 1, lines 35-42)**.

It would have been obvious to one of ordinary skill in this art at the time the invention was made, to modify the invention of copending claims 1 and 4 such that the image bearing member and said storing means were integrally supported to form a cartridge which is detachably mountable to the image forming apparatus, as discussed by Yamauchi, in order to simplify maintenance, as noted by Yamauchi **(see column 1, lines 32-35)**.

Regarding claim 12, see the foregoing rejection of claim 1, for all limitations except the following.

See the foregoing rejection of claim 11, for a cartridge for being detachably mountable to an image forming apparatus, said cartridge comprising: the image bearing member, and storing means for storing information on the cartridge.

Regarding claim 19, see the foregoing rejection of claim 1, for all limitations except the following.

See the foregoing rejection of claim 11 for a storing device to be mounted to a cartridge for being detachably mountable to an image forming apparatus including an image bearing member.

Regarding claim 26, see the foregoing rejection of claim 1, for all limitations except the following.

See the foregoing rejection of claim 11 for a storing device to be mounted to a cartridge for being detachably mountable to an image forming apparatus including an image bearing member.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9, 11-12, 14-16, 18-19, 21-23, 25-26, 28-29, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyamoto (2002/0071689), in view of Yamauchi (7,274,884).

Regarding claim 1, and claims 2-9 and 11 depending therefrom, Miyamoto discloses an image forming apparatus having a first image formation mode for forming an image on an image bearing member (**see paragraph [0063]**) by using developer under a first predetermined image forming condition (**"fine" mode; see paragraph [0096]**) and a second image formation mode for forming an image on an image bearing member by using developer under a second image forming condition (**"fine edge draft" mode; see paragraph [0096]**) which is different from the first predetermined image forming condition (**see paragraph [0096]**) and is set so that an amount of consumption of developer with respect to an identical image in the second image formation mode is

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smaller than that in the first image formation mode (**see paragraph [0096]**), the apparatus comprising:

storing means for storing information on an amount of usage of the image bearing member (**see paragraph [0100]; counts number of copies made; that inherently tracks usage of the photoconductor**); and

control means configured to set said the second image forming apparatus condition in the first image formation mode or the second image formation mode (**controller 2000, see paragraph [0052]; responds to commands from user panel, see paragraph [0064]; including changes in toner consumption mode, see paragraphs [0071] and [0073]; can select between these two modes in particular, see paragraphs [0071], [0073], and [0096]**).

Miyamoto does not disclose *storing means for storing information for setting the second image forming condition corresponding to a plurality of levels of an amount of usage of the image bearing member*, and

control means for changing the second image forming condition in the second image formation mode depending on an amount of usage of the image bearing member and information stored in said storing means.

Yamauchi discloses *storing information for setting the second image forming condition corresponding to a plurality of levels of an amount of usage of the image bearing member* (**tracks photoconductor usage; makes adjustments when it reaches certain thresholds; see column 8, lines 57-61**), and changing the second

image forming condition in the second image formation mode depending on an amount of usage of the image bearing member and information stored in said storing means **(changes toner consumption mode; see column 16, lines 45-54).**

It would have been obvious to one of ordinary skill in this art at the time the invention was made, to modify the invention of Miyamoto such that storing information for setting the second image forming condition corresponds to a plurality of levels of an amount of usage of the image bearing member, as discussed by Yamauchi, so that the invention can determine when to change usage settings to meet operational specifications as the part wears, as noted by Yamauchi **(see column 7, lines 40-59).**

It would have been obvious to one of ordinary skill in this art at the time the invention was made, to modify the combination of Miyamoto and Yamauchi to include changing the second image forming condition in the second image formation mode depending on an amount of usage of the image bearing member and information stored in said storing means, in order to compensate for changes in operational conditions and maintain image quality, as noted by Yamauchi **(see column 7, lines 40-59; and column 16, lines 18-23 and 61-67).**

Regarding claim 2, and claim 3 depending therefrom, this combination of Miyamoto and Yamauchi teaches an apparatus according to Claim 1, wherein said image forming apparatus further comprises discrimination means for discriminating an image to be formed **(see paragraph [0096] and text in figure 22; it finds edges of character and graphic images, and distinguishes them from internal areas; that is equivalent to determining the size of concentrated pixel areas)**, said discrimination

means changes the second image forming condition depending on an amount of usage of the image beating member **(see the foregoing rejection of claim 1)**, information stored in said storing means **(see the foregoing rejection of claim 1)**, and a result of discrimination by said discrimination means **(see paragraph [0096]; forms images in “fine draft mode,” and, if selected, prints the edges of the images heavier than the interiors, in response to identification of edges and interiors, which reads on discrimination of a size of concentrated pixel areas)**.

Regarding claim 3, Miyamoto further discloses an apparatus according to Claim 2, wherein said discrimination means is means for discriminating a size of a concentrated pixel area and changes the second image forming condition depending on whether the concentrated pixel area is larger or smaller than a concentrated pixel pattern having a predetermined size **(see paragraph [0096]; in “fine edge draft” mode, it reduces the density less at the edges than in the interior of a toner image, which meets this limitation)**.

Regarding claim 4, and claim 9 depending therefrom, Miyamoto does not disclose that in the apparatus identified with that according to Claim 1, said storing means further has a second storing area for storing a plurality of levels of threshold information, and

said control means changes the second image forming condition depending on information for setting the second image forming condition corresponding to a plurality

of levels of an amount of usage of the image bearing member when an amount of usage of the image bearing member reaches a predetermined threshold information.

Yamauchi discloses an apparatus such as that according to Claim 1, wherein said storing means further has a second storing area for storing a plurality of levels of threshold information **(tracks photoconductor usage; makes adjustments when it reaches certain thresholds; see column 8, lines 57-61)**, and said control means changes the second image forming condition depending on information for setting the second image forming condition corresponding to a plurality of levels of an amount of usage of the image bearing member when an amount of usage of the image bearing member reaches a predetermined threshold information **(changes toner consumption mode; see column 16, lines 45-54)**.

It would have been obvious to one of ordinary skill in this art at the time the invention was made, to modify the combination of Miyamoto and Yamauchi such that said storing means further has a second storing area for storing a plurality of levels of threshold information, so that the invention can determine when to change usage settings to meet operational specifications as the part wears, as noted by Yamauchi **(see column 7, lines 40-59)**.

It would have been obvious to one of ordinary skill in this art at the time the invention was made, to modify the combination of Miyamoto and Yamauchi such that said control means changes the second image forming condition depending on information for setting the second image forming condition corresponding to a plurality of levels of an amount of usage of the image bearing member when an amount of

usage of the image bearing member reaches a predetermined threshold information, as discussed by Yamauchi, in order to compensate for changes in operational conditions and maintain image quality, as noted by Yamauchi **(see column 7, lines 40-59; and column 16, lines 18-23 and 61-67).**

Regarding claim 9, the cited combination of Miyamoto and Yamauchi does not teach that in the apparatus identified with that according to Claim 4, the apparatus further ~~comprising~~ comprises exposure means for exposing the image bearing member under an exposure operation condition on the basis of image information, and the information for setting the second image forming condition corresponding to the plurality of levels of an amount of usage of the image bearing member is the exposure operation condition of the exposure means.

Yamauchi discloses an apparatus that ~~comprising~~ comprises exposure means for exposing the image bearing member under an exposure operation condition on the basis of image information, and wherein information for setting a second image forming condition corresponding to a plurality of levels of an amount of usage of an image bearing member is the exposure operation condition of the exposure means **(see column 15, lines 35-50, 60-67; and column 16, lines 3-23, and table 4).**

It would have been obvious to one of ordinary skill in this art at the time the invention was made, to modify the combination of Miyamoto and Yamauchi, such that the apparatus further ~~comprising~~ comprises exposure means for exposing the image bearing member under an exposure operation condition on the basis of image information, and the information for setting the second image forming condition

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corresponding to the plurality of levels of an amount of usage of the image bearing member is the exposure operation condition of the exposure means, in order to compensate for changes in the image bearing member resulting from usage, as discussed by Yamauchi (**see column 15, lines 35-50; and column 16, lines 61-67**).

Regarding claim 5, and claims 6 and 7 depending therefrom, Miyamoto further discloses that in the apparatus identified with that according to Claim 1, said image forming apparatus further comprises exposure means for exposing the image bearing member under an exposure operation condition on the basis of image information (**electrophotography; see paragraph [0063]; as Yamauchi explains in column 1, lines 21-31; this requires such an exposure device**).

Regarding claim 6, Miyamoto further discloses that in the apparatus identified with that according to Claim 5, the exposure operation condition is an exposure time of said exposure means (**see the foregoing rejection of claim 5; and column 16, lines 18-23 and 61-67**).

Regarding claim 7, the cited combination of Miyamoto and Yamauchi does not teach that in the apparatus identified with that according to Claim 5, the exposure operation condition is an exposure time of said exposure means on the basis of a sensitivity characteristic of the image bearing member.

Yamauchi discloses an apparatus wherein the exposure operation condition is an exposure time of said exposure means on the basis of a sensitivity characteristic of the

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image bearing member (**see column 15, lines 35-50, 60-67; and column 16, lines 3-23, and table 4**).

It would have been obvious to one of ordinary skill in this art at the time the invention was made, to modify the combination of Miyamoto and Yamauchi such that said image forming apparatus further comprises exposure means for exposing the image bearing member under an exposure operation condition on the basis of image information, in order to compensate for changes in the image bearing member resulting from usage, as discussed by Yamauchi (**see column 15, lines 35-50; and column 16, lines 61-67**).

Regarding claim 8, the cited combination of Miyamoto and Yamauchi does not teach that in the apparatus identified with that according to Claim 1, the information for setting the second image forming condition corresponding to a plurality of levels of an amount of the image bearing member is designation information for ~~determinating~~ determining the second image forming condition.

Yamauchi discloses an apparatus wherein the information for setting the second image forming condition corresponding to a plurality of levels of an amount of the image bearing member is designation information for ~~determinating~~ determining the second image forming condition (**see column 15, lines 35-50, 60-67; and column 16, lines 3-23, and table 4**).

It would have been obvious to one of ordinary skill in this art at the time the invention was made, to modify the combination of Miyamoto and Yamauchi such that

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the information for setting the second image forming condition corresponding to a plurality of levels of an amount of the image bearing member is designation information for—~~determinating~~ determining the second image forming condition, in order to compensate for changes in the image bearing member resulting from usage, as discussed by Yamauchi (**see column 15, lines 35-50; and column 16, lines 61-67**).

Regarding claim 11, the cited combination of Miyamoto and Yamauchi does not teach that in the apparatus identified with that according to Claim 1, the image bearing member and said storing means are integrally supported to form a cartridge which is detachably mountable to the image forming apparatus.

Yamauchi discloses an apparatus wherein an image bearing member and a storing means are integrally supported to form a cartridge which is detachably mountable to the image forming apparatus (**see column 1, lines 35-42**).

It would have been obvious to one of ordinary skill in this art at the time the invention was made, to modify the invention of copending claims 1 and 4 such that the image bearing member and said storing means were integrally supported to form a cartridge which is detachably mountable to the image forming apparatus, as discussed by Yamauchi, in order to simplify maintenance, as noted by Yamauchi (**see column 1, lines 32-35**).

Regarding claim 12, and claims 14-16 and 18 depending therefrom, see the foregoing rejection of claim 1, for all limitations except the following.

See the foregoing rejection of claim 11 for a cartridge for being detachably mountable to an image forming apparatus, said cartridge comprising: the image bearing member, and storing means for storing information on the cartridge.

Regarding claim 14, and claims 15-16 depending therefrom, see the foregoing rejection of claim 5.

Regarding claim 15, see the foregoing rejection of claim 6.

Regarding claim 16, see the foregoing rejection of claim 7.

Regarding claim 18, see the foregoing rejection of claim 9.

Regarding claim 19, and claims 21-23 and 25 depending therefrom, see the foregoing rejection of claim 1 for all limitations except the following.

See the foregoing rejection of claim 11 for a storing device to be mounted to a cartridge for being detachably mountable to an image forming apparatus including an image bearing member.

Regarding claim 21, and claims 22 and 23 depending therefrom, see the foregoing rejection of claim 5.

Regarding claim 22, see the foregoing rejection of claim 6.

Regarding claim 23, see the foregoing rejection of claim 7.

Regarding claim 25, see the foregoing rejection of claim 9.

Regarding claim 26, and claims 28-29, and 31 depending therefrom, see the foregoing rejection of claim 1, for all limitations except the following.

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See the foregoing rejection of claim 11, for a storing device to be mounted to a cartridge for being detachably mountable to an image forming apparatus including an image bearing member.

Regarding claim 28, and claim 29 depending therefrom, see the foregoing rejection of claim 5.

Regarding claim 29, see the foregoing rejection of claim 6.

Regarding claim 31, see the foregoing rejection of claim 8.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GEOFFREY T. EVANS whose telephone number is (571)272-2369. The examiner can normally be reached on 9 AM - 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Gray can be reached on (571) 272 2119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David M Gray/
Supervisory Patent Examiner,
Art Unit 2852

GTE